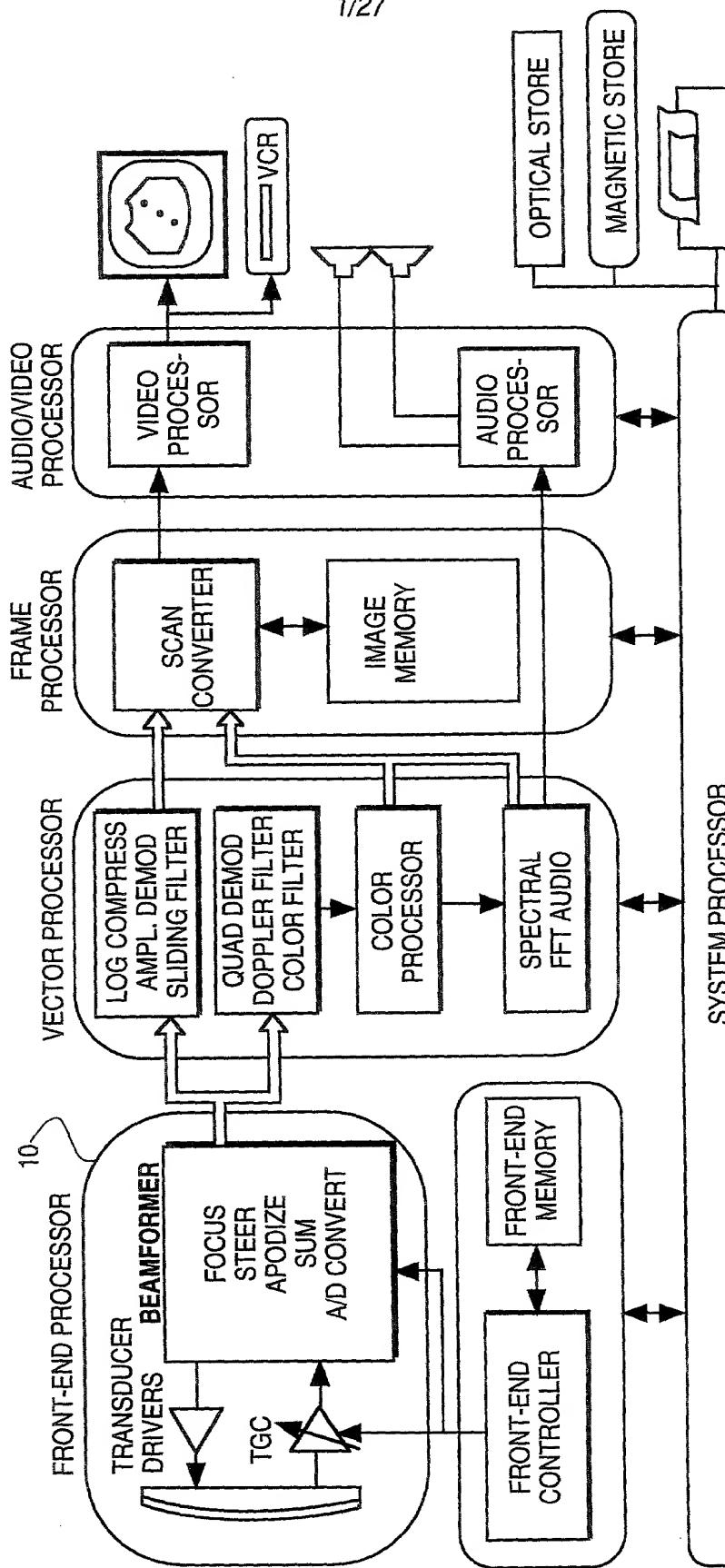
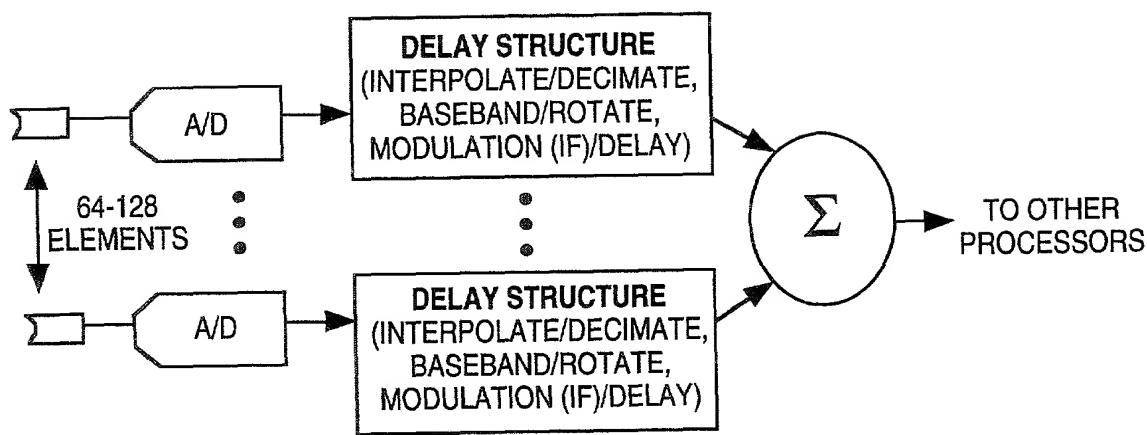


FIG. 1

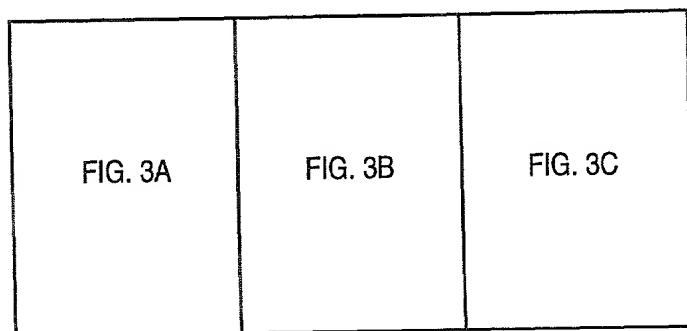


ULTRASONIC IMAGING SYSTEM BLOCK DIAGRAM

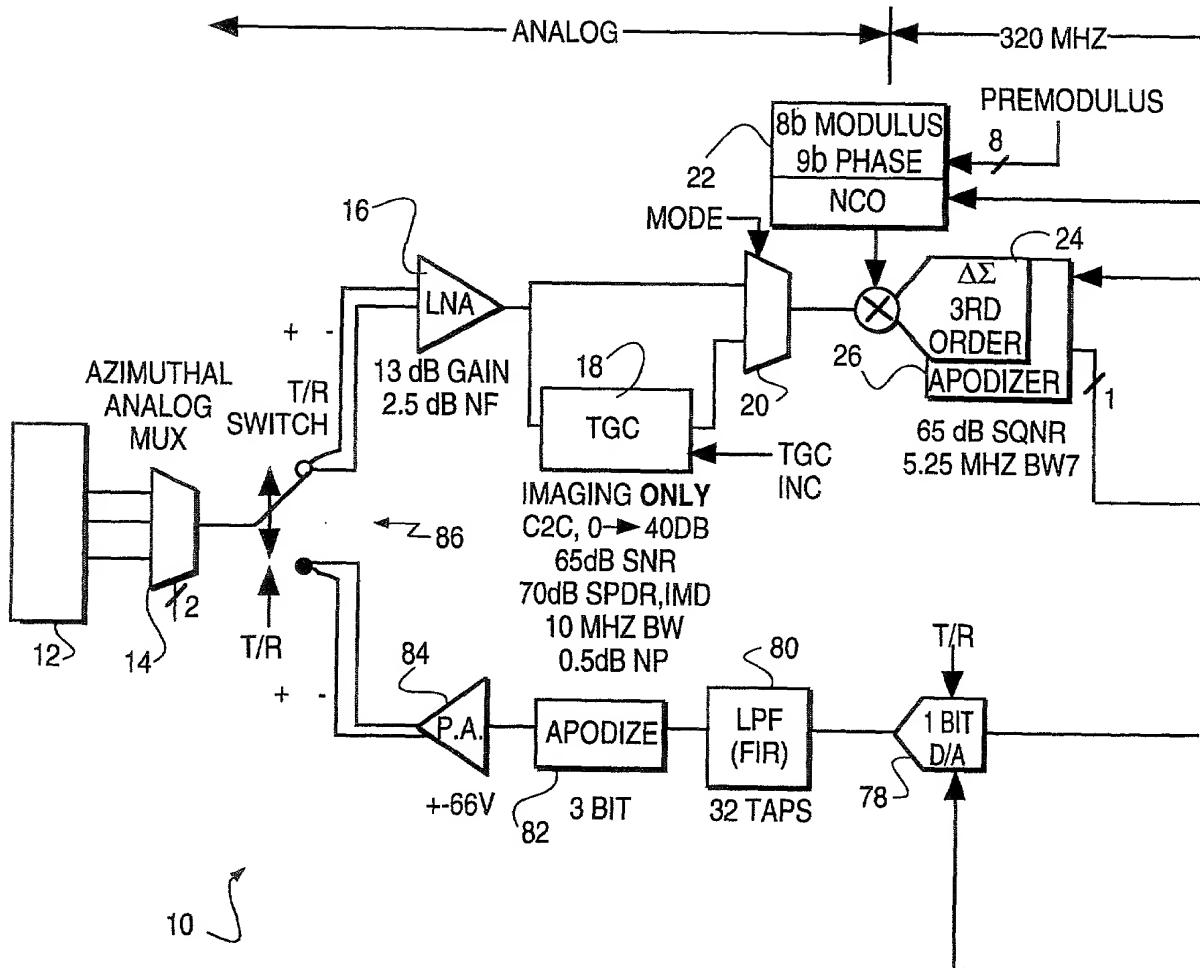
**FIG. 2**  
PRIOR ART



**FIG. 3**



**FIG. 3A**

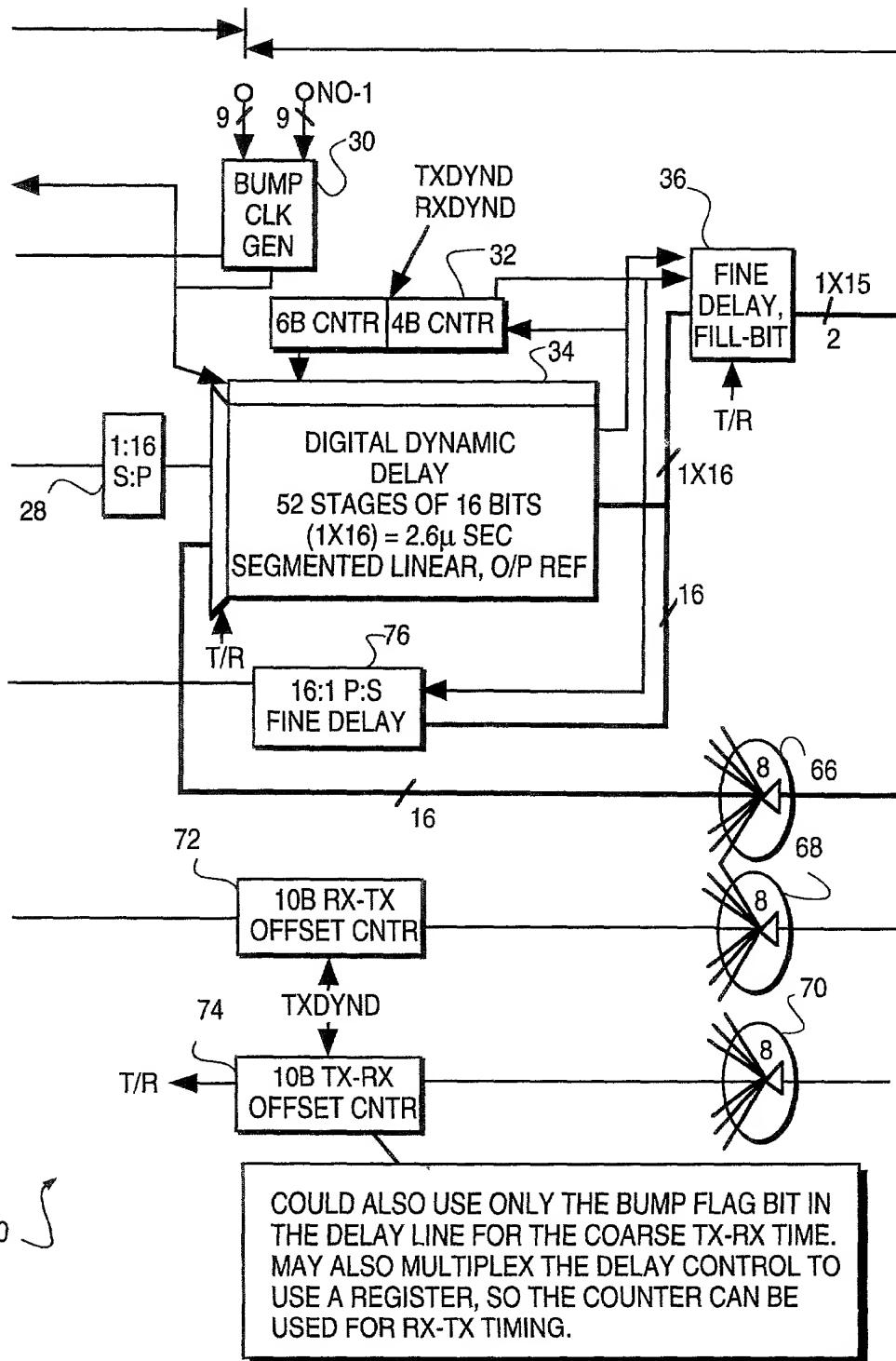


**LEGEND:**

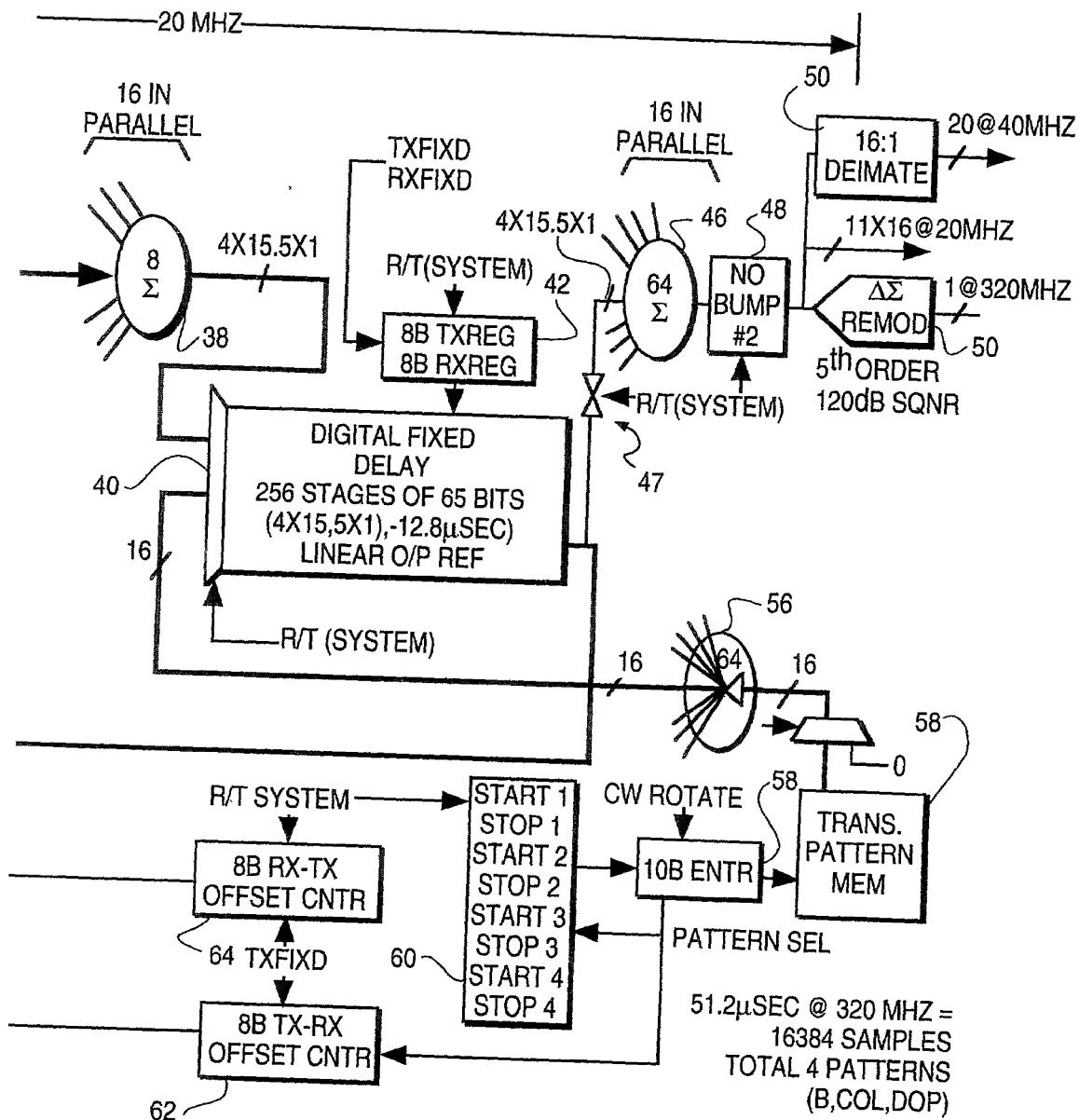
**TEXT SPECIFICATIONS**

- CONTROL LINES AND CIRCUITS
- TEXT THAT CHANGE DURING ONE BEAM
- CONTROL LINES FIXED DURING A BEAM-DOUBLE BUFFERED SO PRELOAD DURING A BEAM
- RARELY IF EVER CHANGES-POWER UP/RESET

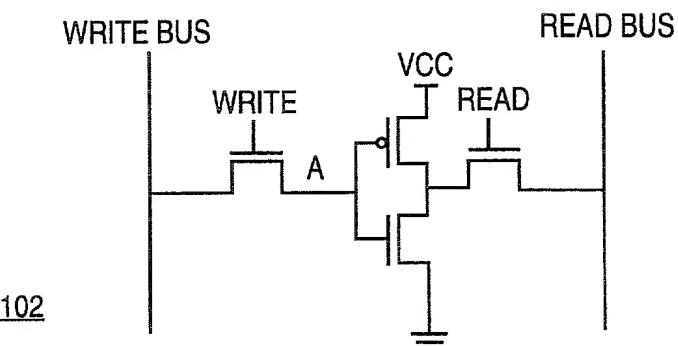
FIG. 3B



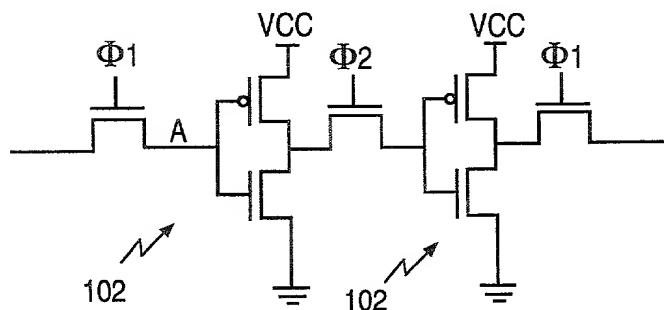
**FIG. 3C**



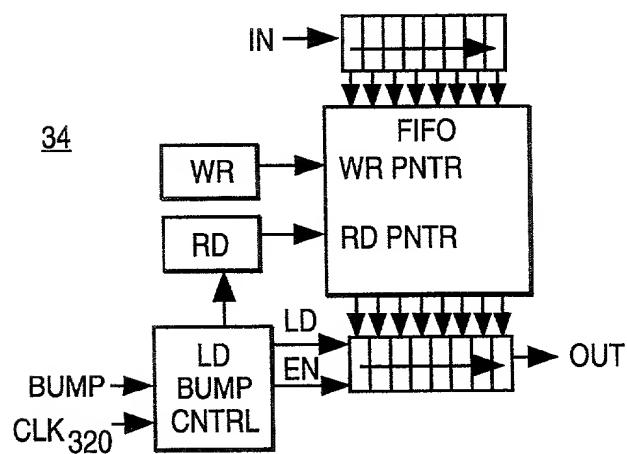
**FIG. 4**



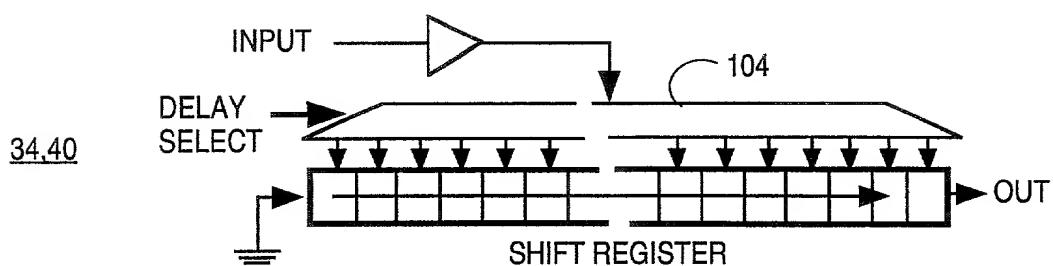
**FIG. 5**



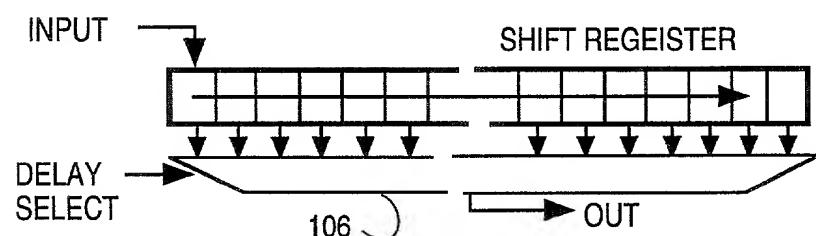
**FIG. 6**



**FIG. 7A**

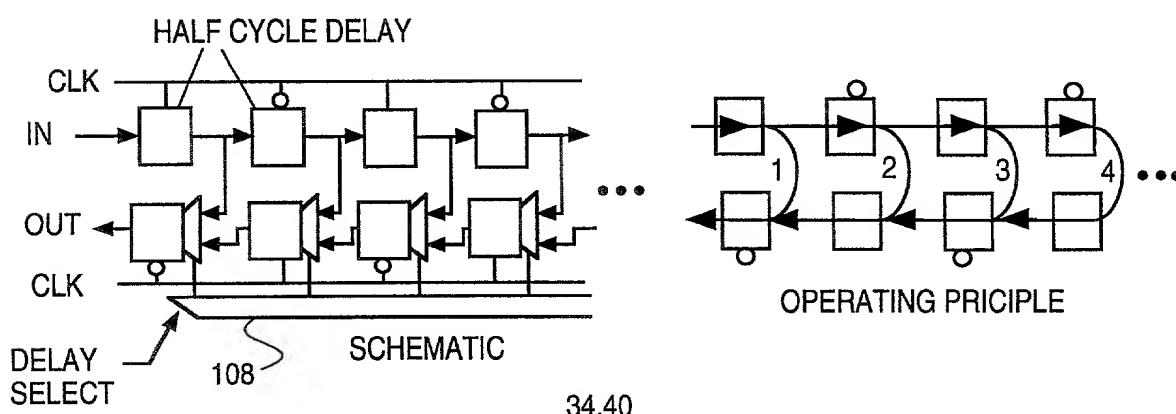


**FIG. 7B**



34.40

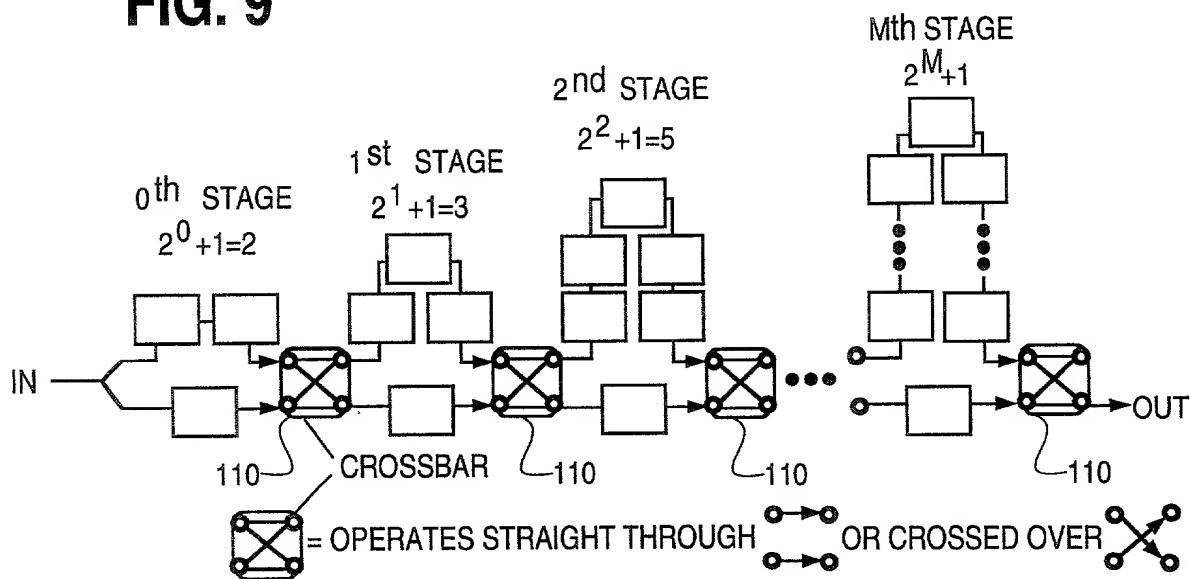
**FIG. 8**



34.40

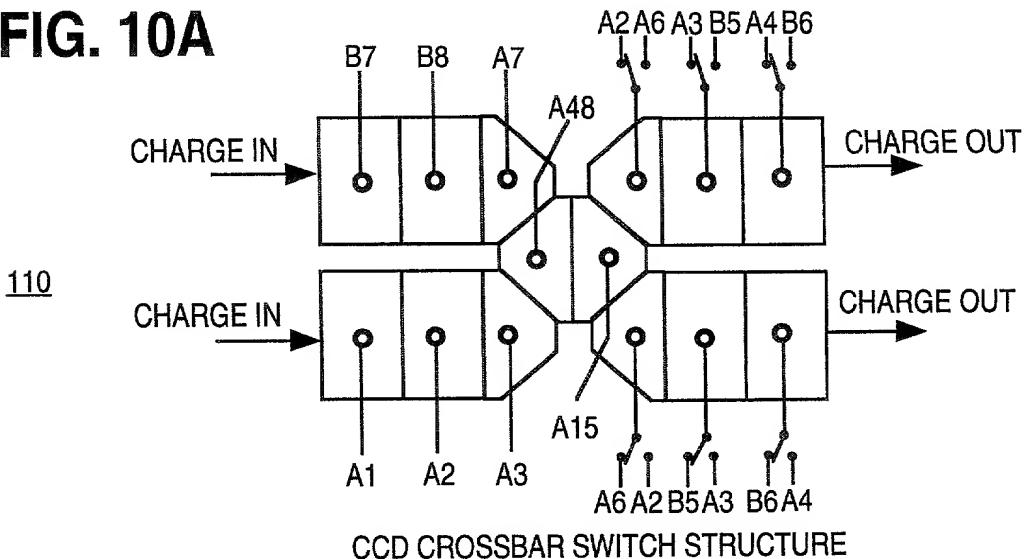
**FIG. 9**

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34.40

**FIG. 10A**



CCD CROSSBAR SWITCH STRUCTURE

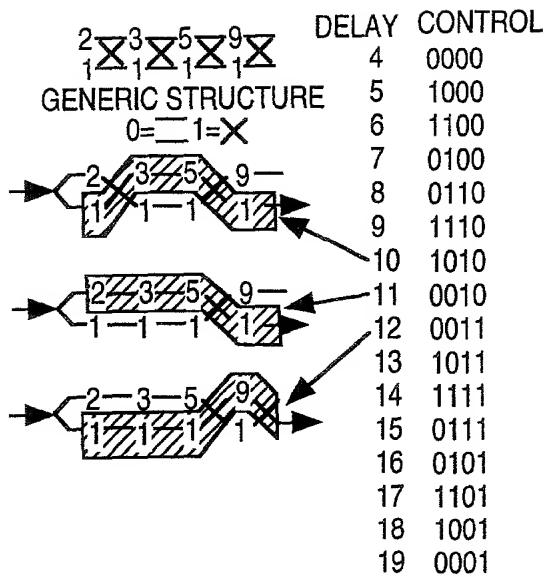
**FIG. 10B**

A1	A2	A3	A4	A5	A6	A7	A8	B5	B6	B7	B8	A48	A15
1	1	0	0	0	0	0	0	1	1	1	1	0	1
0	1	1	0	0	0	0	0	1	1	1	1	0	0
0	0	1	1	0	0	0	0	0	1	1	1	1	0
0	0	0	1	1	0	0	0	0	0	1	1	0	1
0	0	0	0	0	1	1	0	1	0	0	1	0	0
0	0	0	0	0	0	1	1	1	1	0	0	1	0
1	0	0	0	0	0	0	1	1	1	1	0	1	1

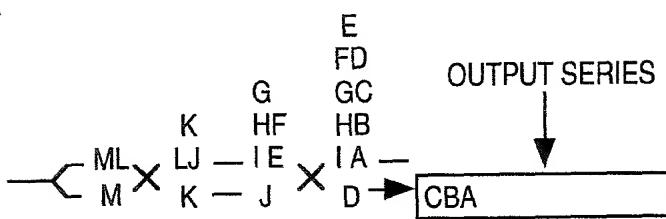
CLOCK PATTERN

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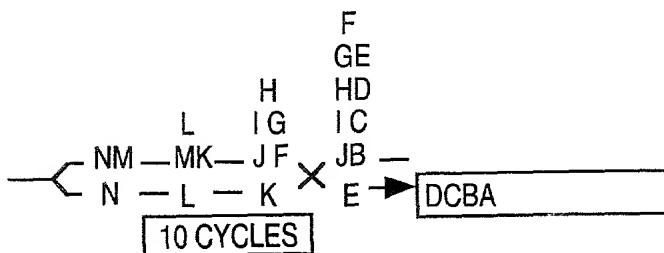
**FIG. 11**



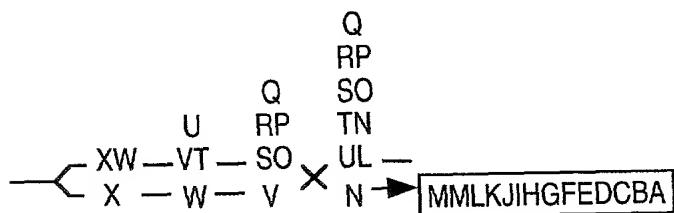
**FIG. 12A**



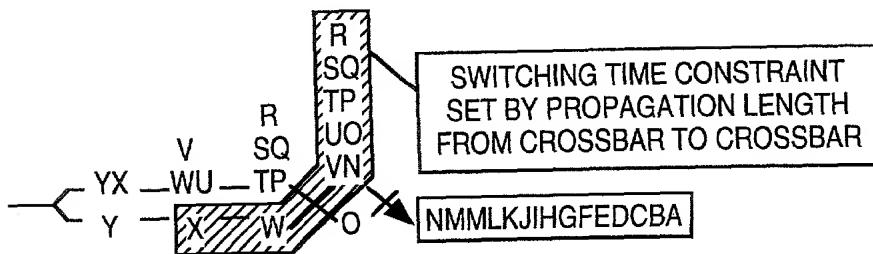
**FIG. 12B**



**FIG. 12C**

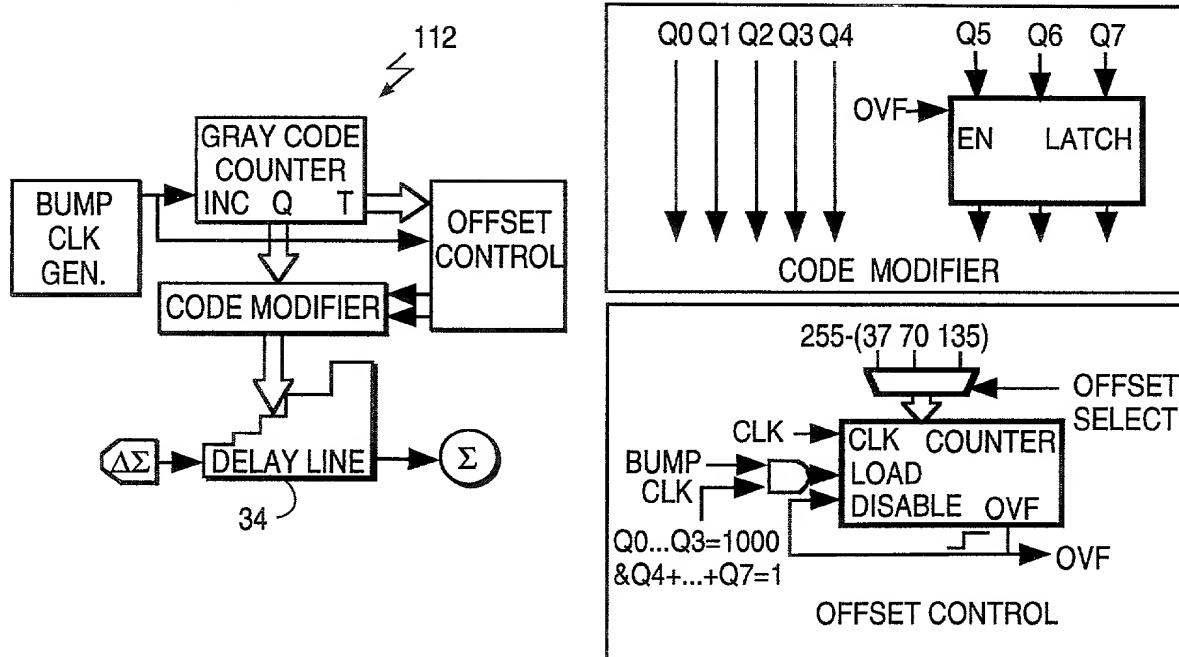


**FIG. 12D**

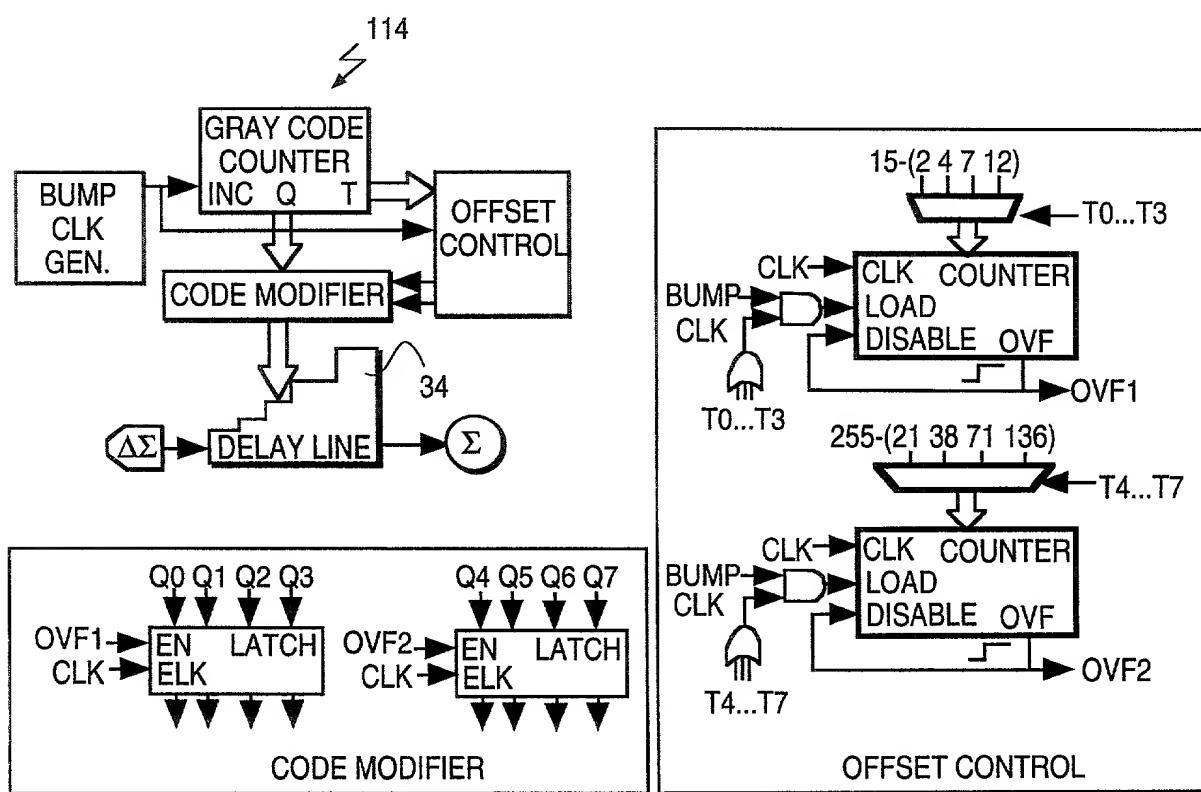


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**FIG. 13**

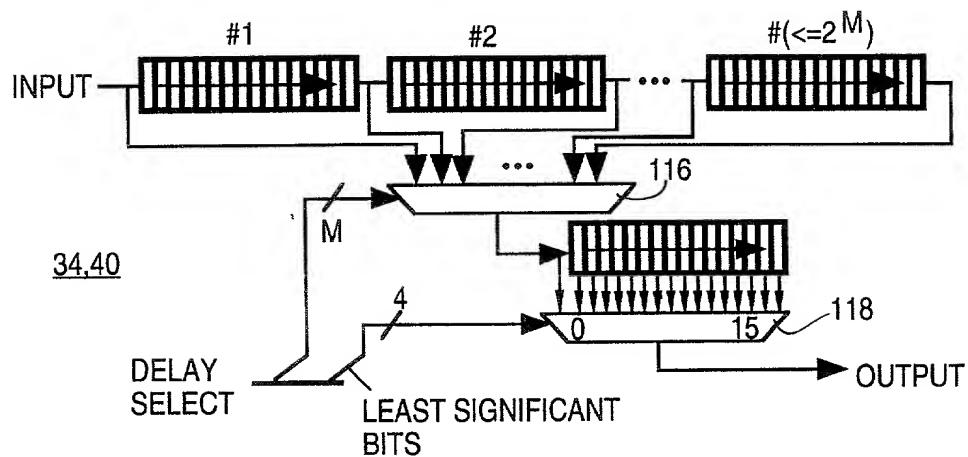


**FIG. 14**



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**FIG. 15**



**FIG. 16**

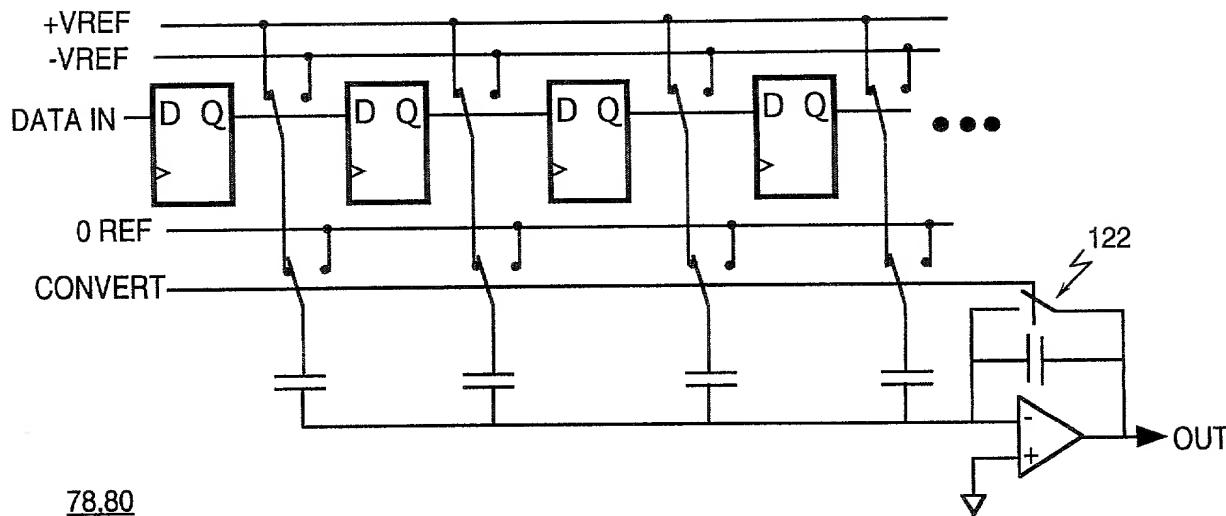
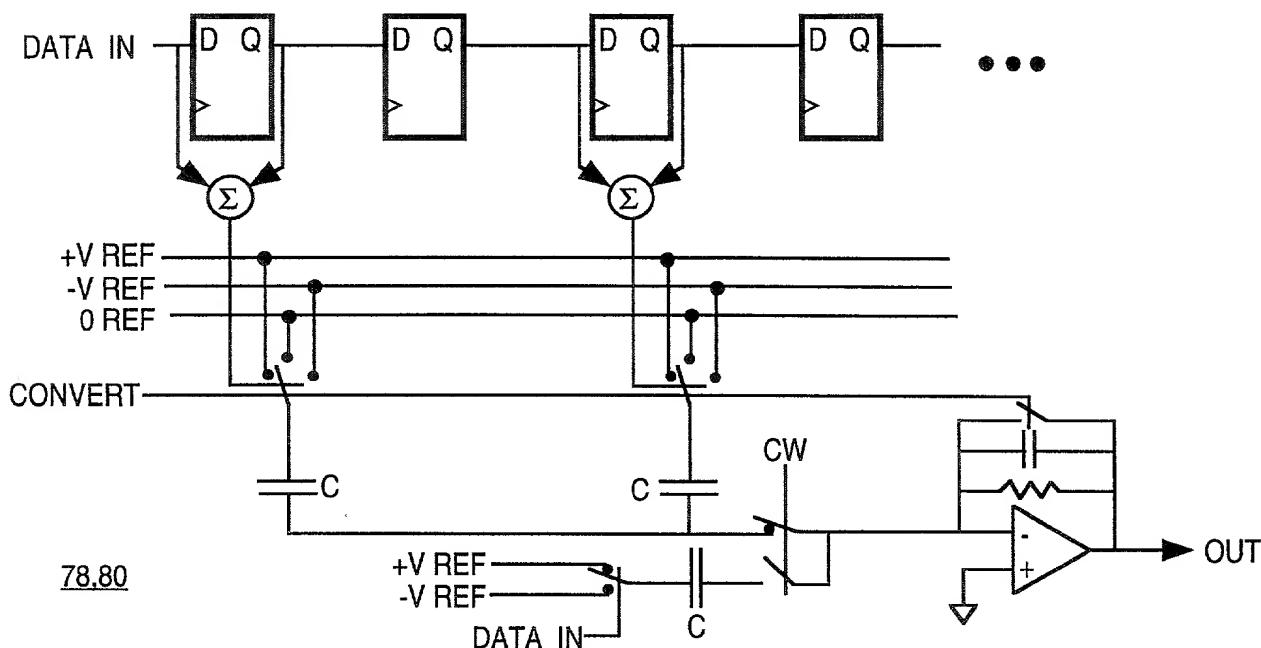
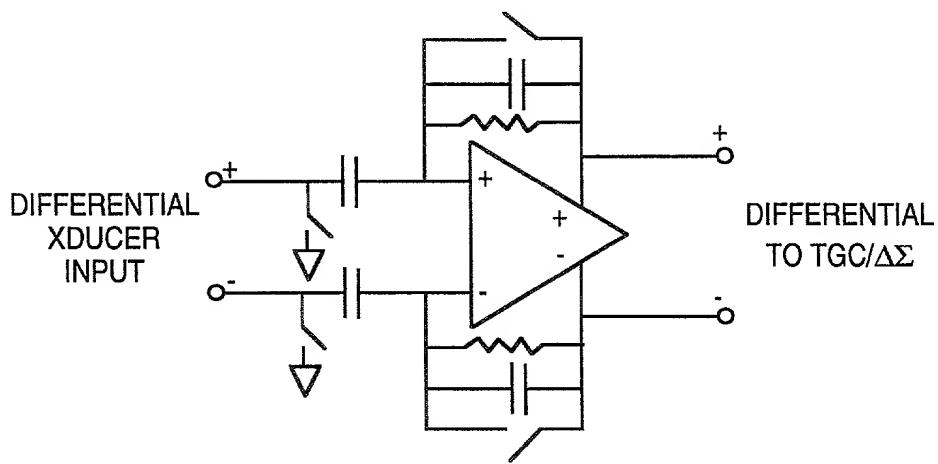


FIG. 17

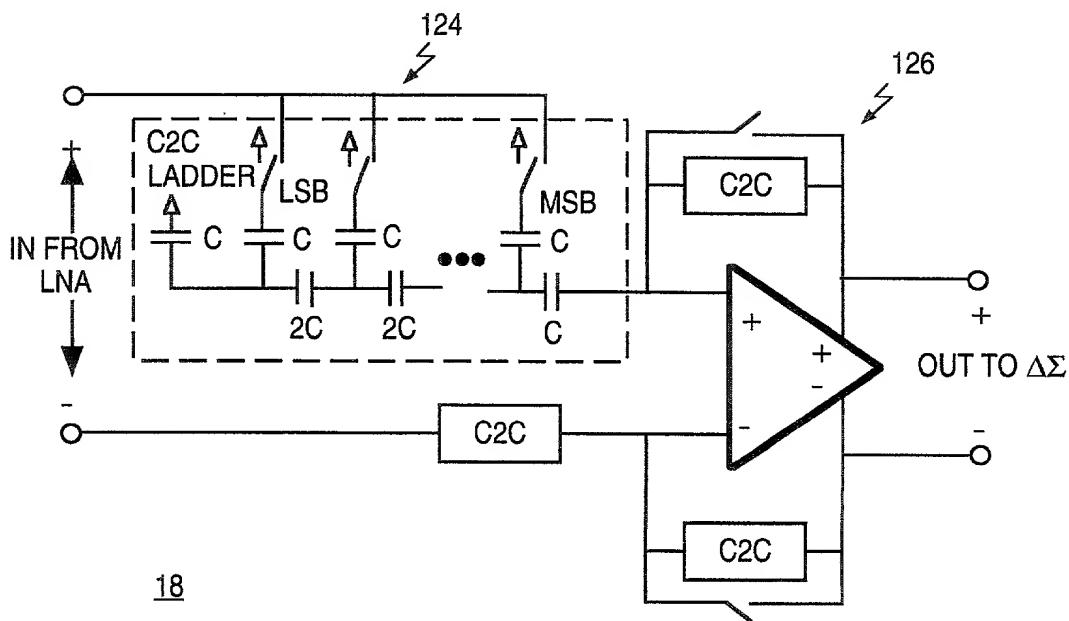


78,80

FIG. 18



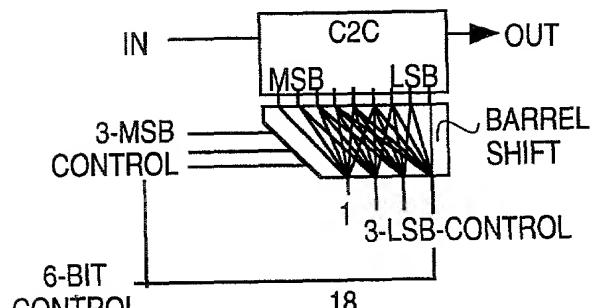
**FIG. 19**



18

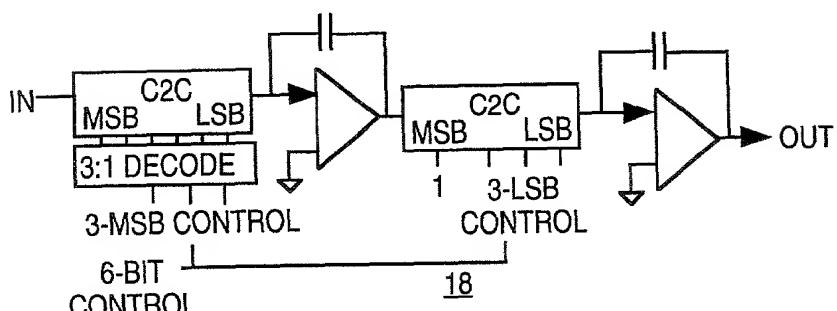
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**FIG. 20A**



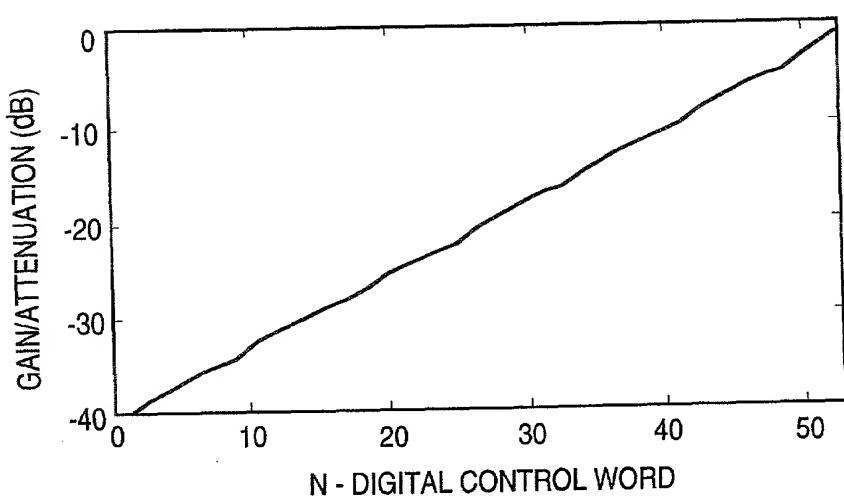
BARREL SHIFT TECHNIQUE

**FIG. 20B**

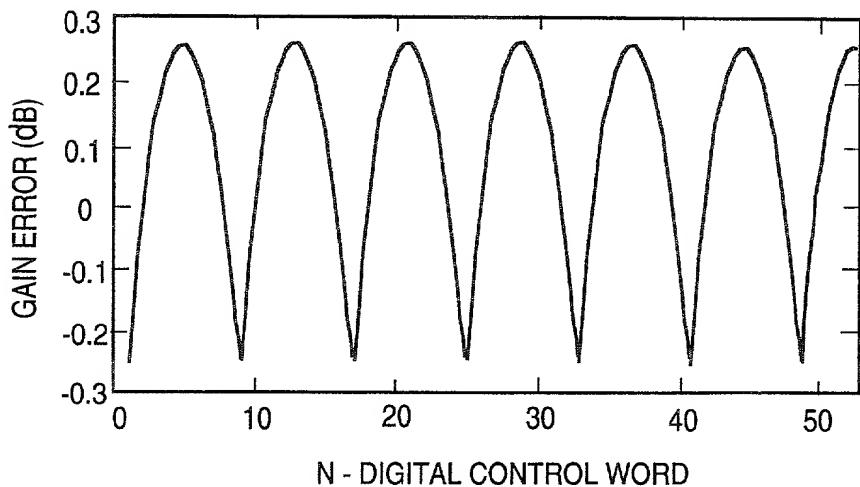


CASCDED TGC STAGES TECHNIQUE

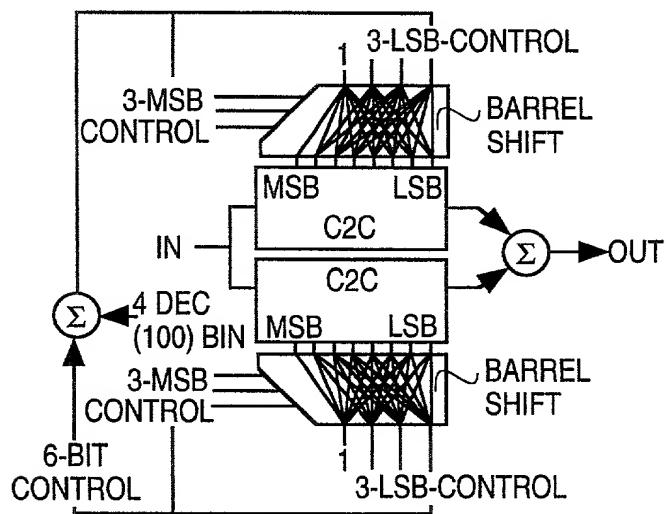
**FIG. 21**



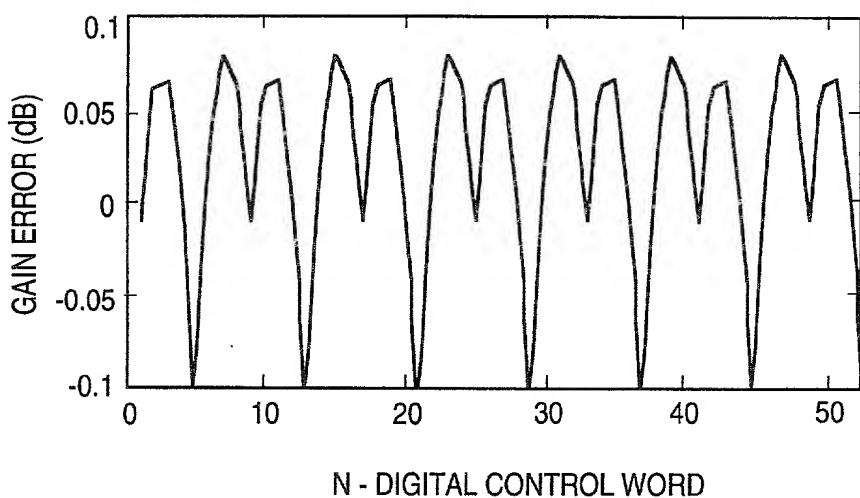
**FIG. 22**



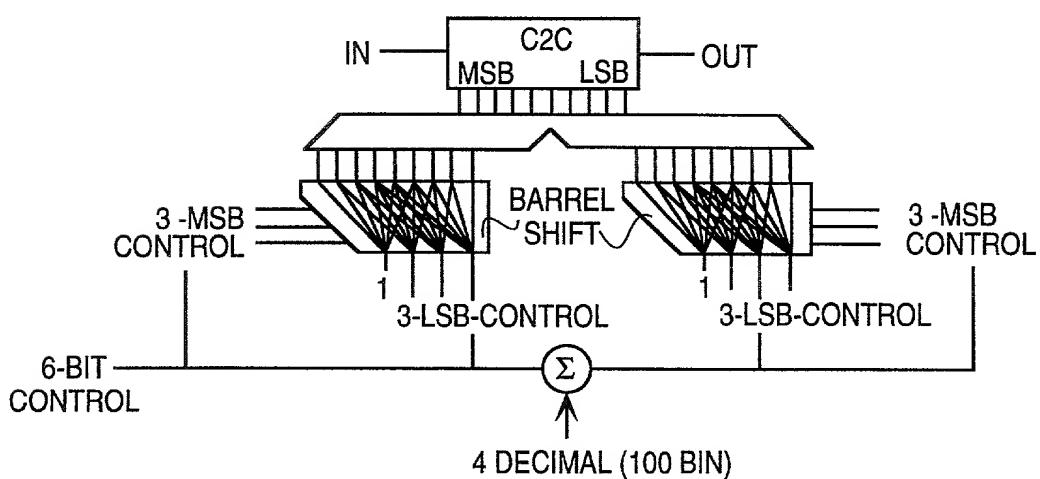
**FIG. 23**



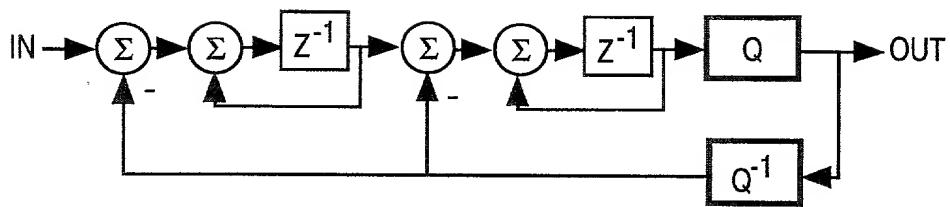
**FIG. 24**



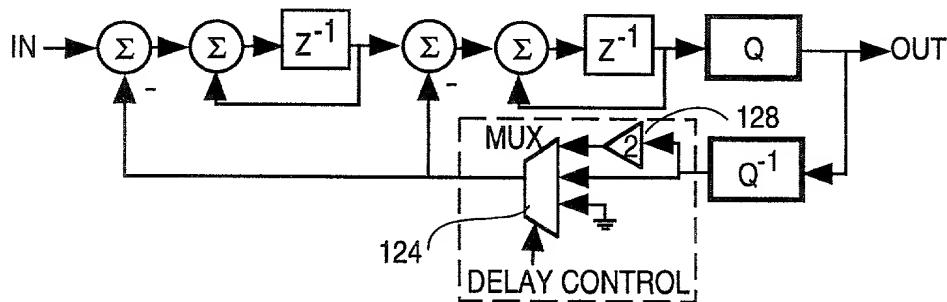
**FIG. 25**



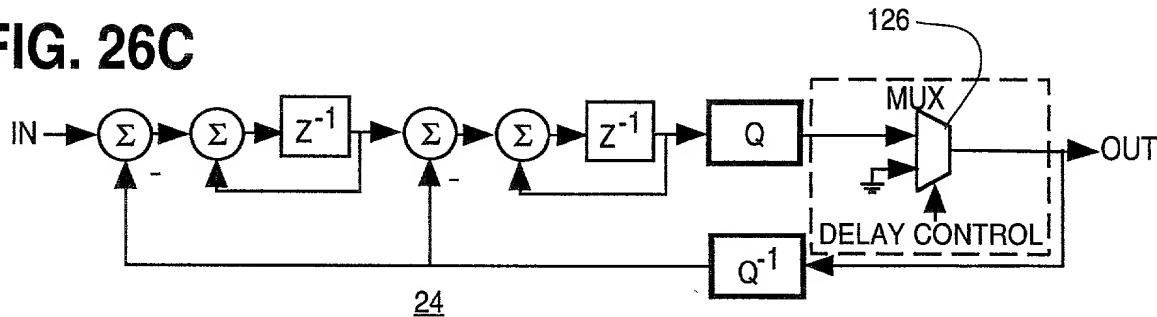
**FIG. 26A**



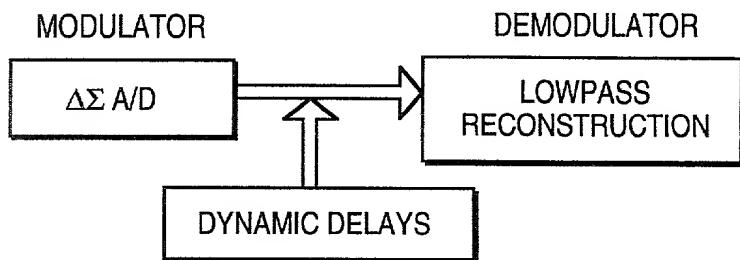
**FIG. 26B**



**FIG. 26C**

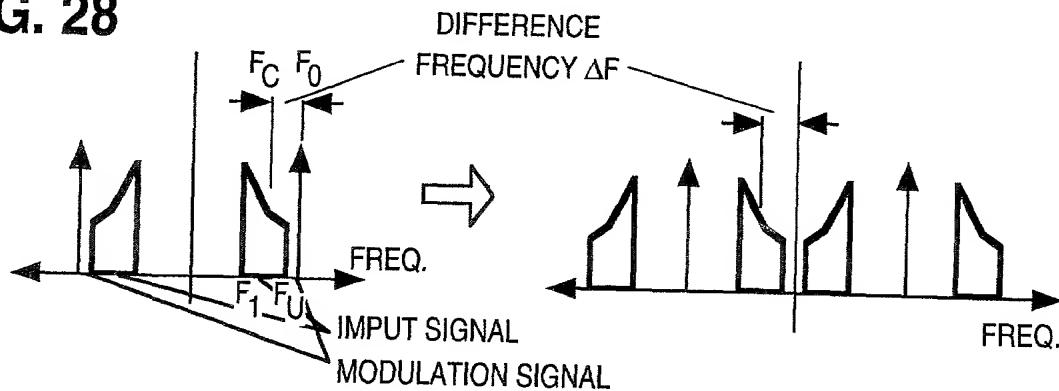


**FIG. 27**

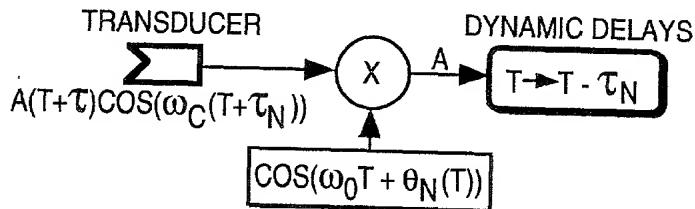


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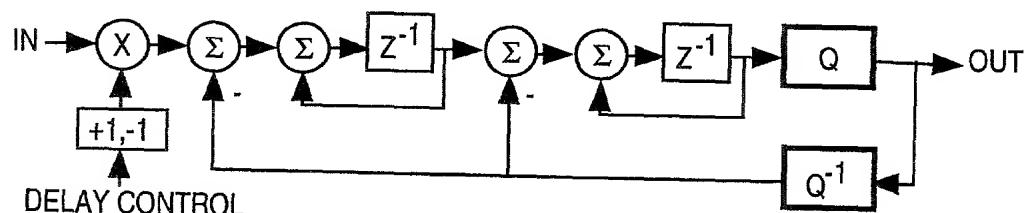
**FIG. 28**



**FIG. 29**

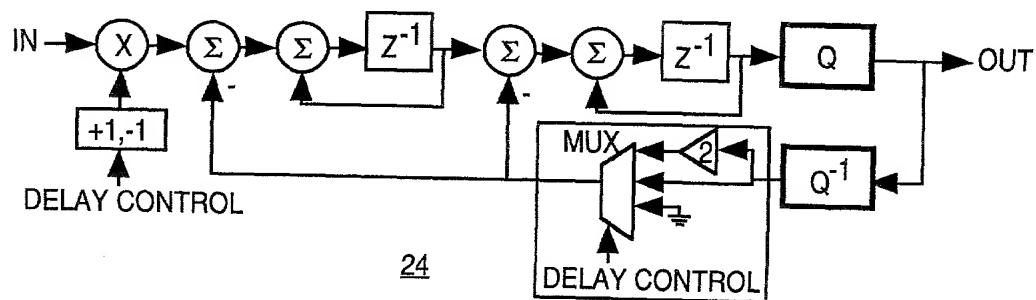


**FIG. 30A**



24

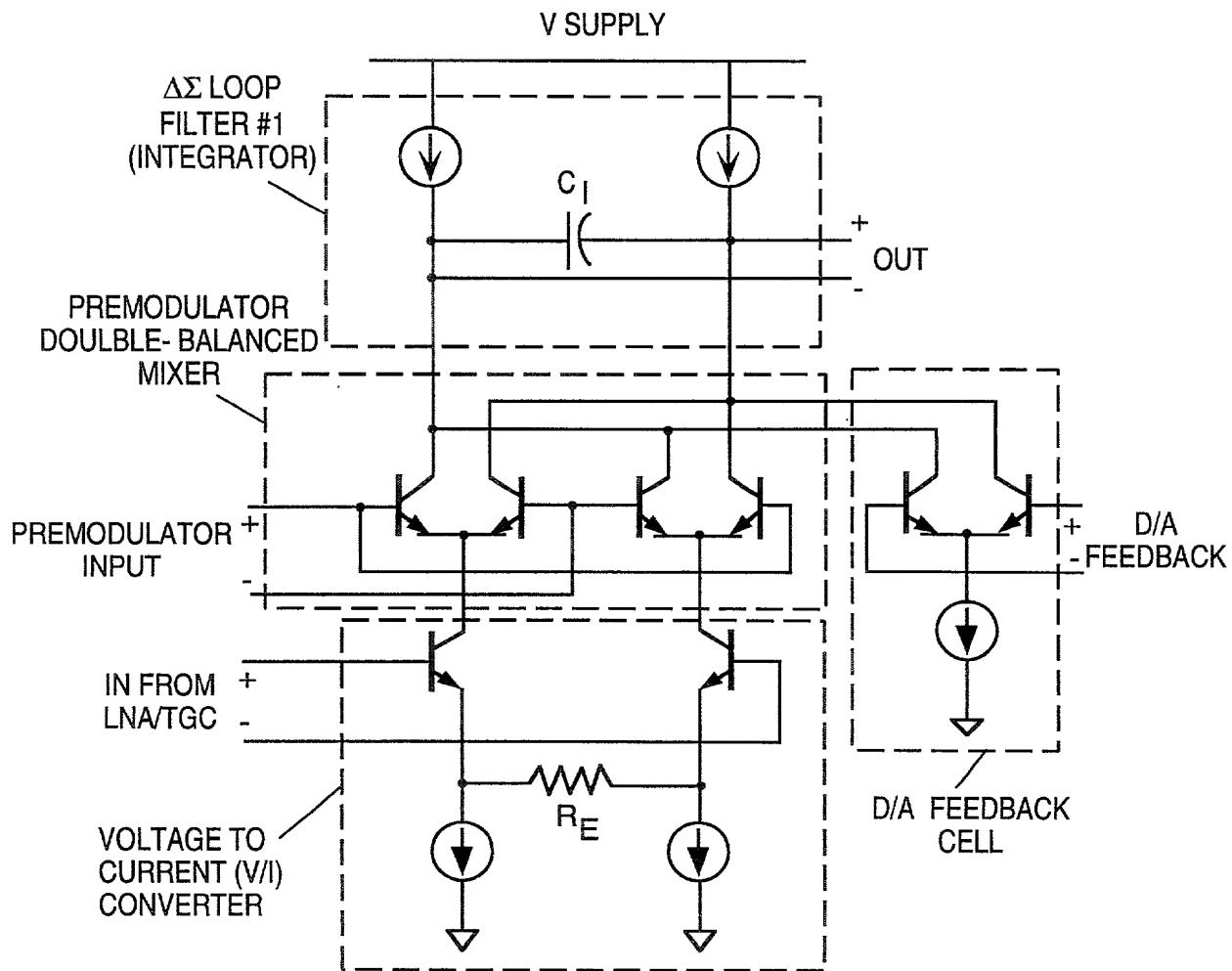
**FIG. 30B**



24

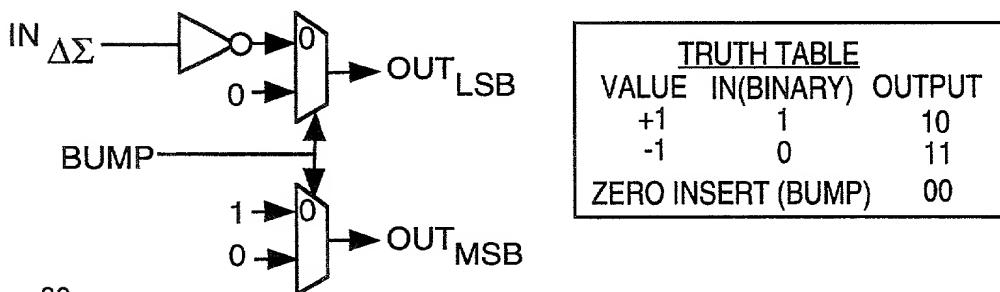
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**FIG. 31**

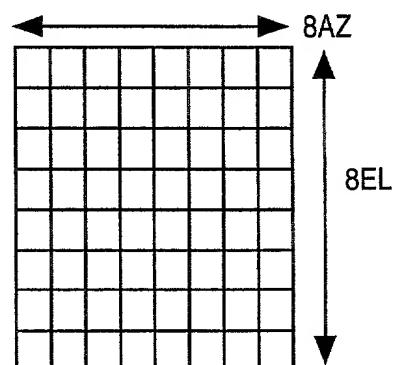
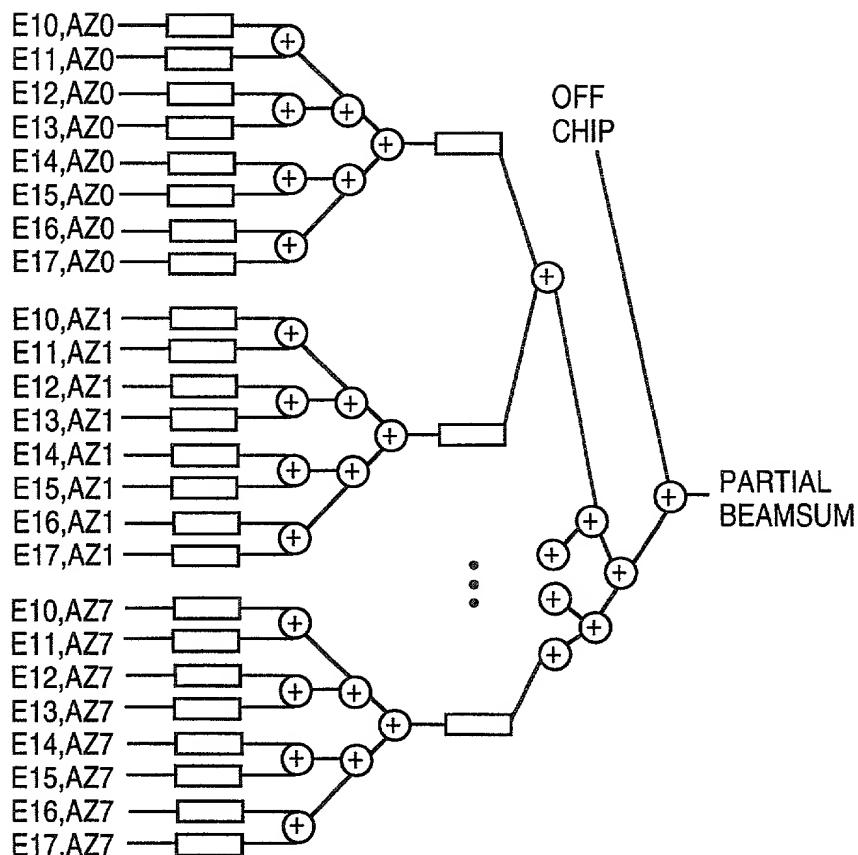


24.26

**FIG. 32**

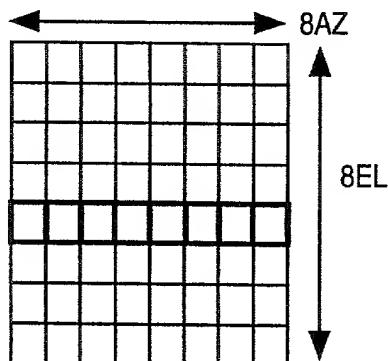
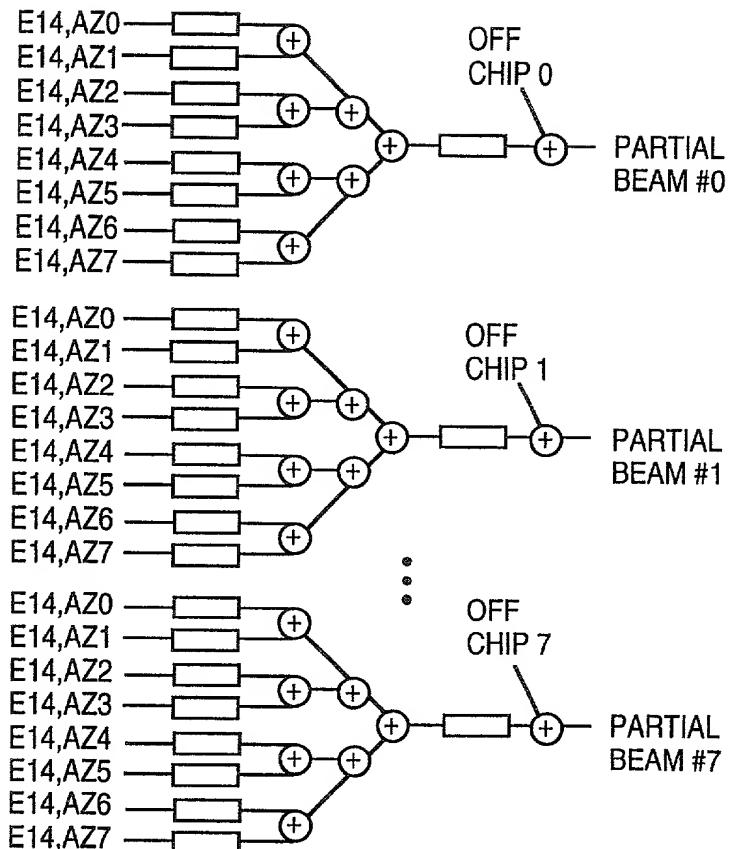


**FIG. 33A**



**NORMAL BEAMFORMER**

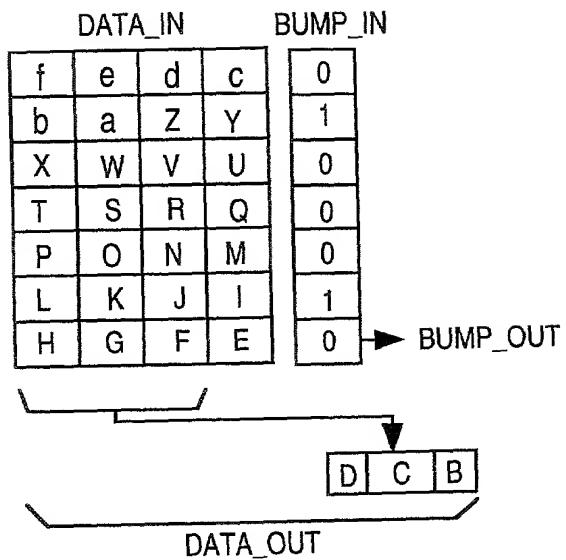
**FIG. 33B**



MULTIBEAM BEAMFORMER

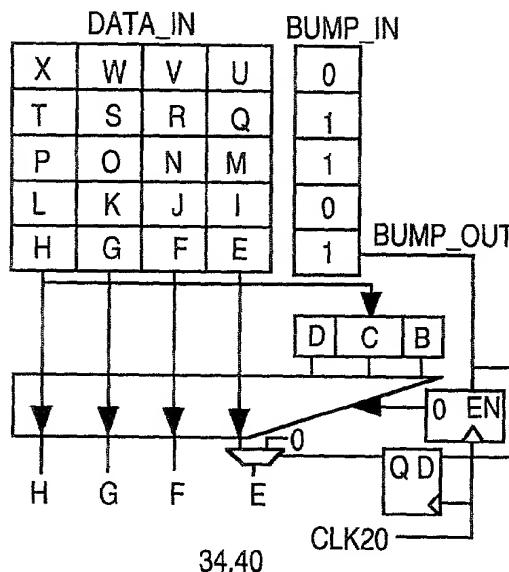
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## FIG. 34

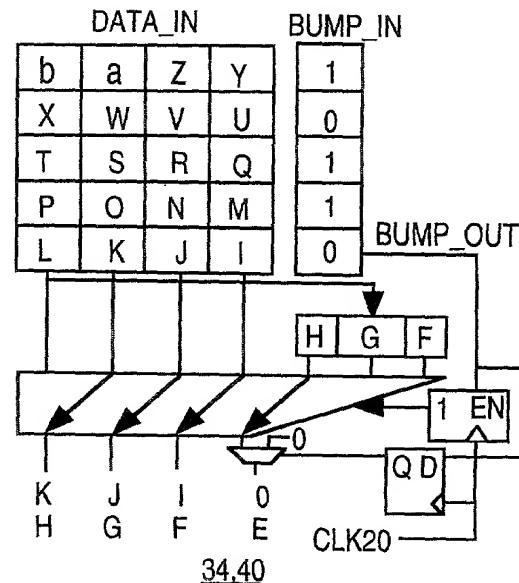


34.40

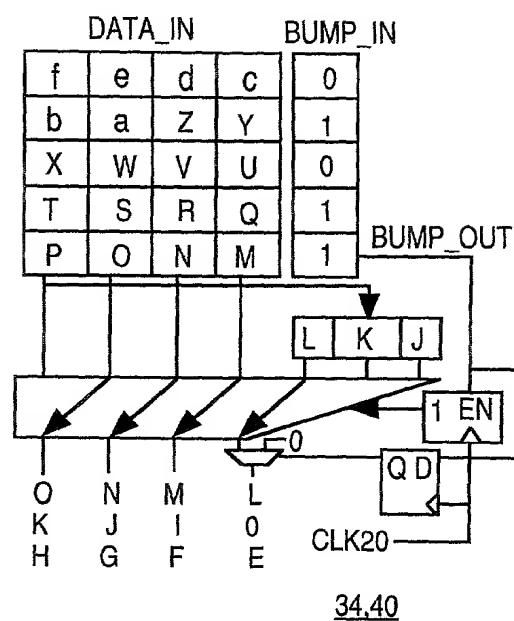
**FIG. 35A**



**FIG. 35B**

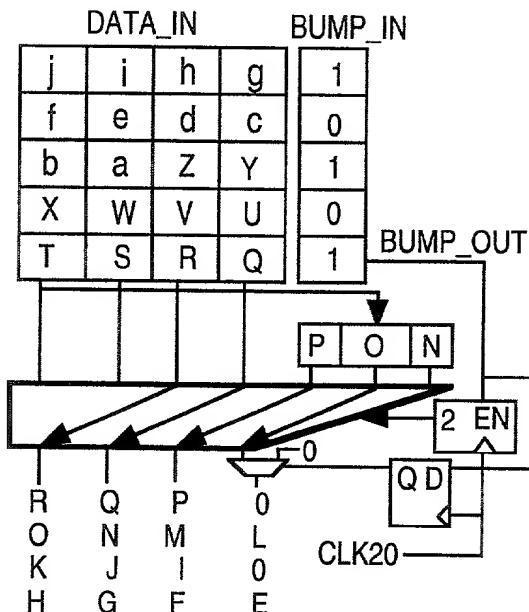


**FIG. 35C**



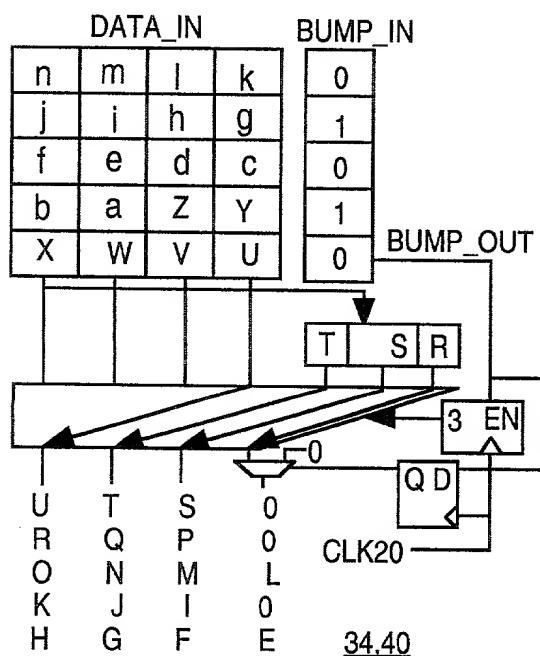
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**FIG. 36A**



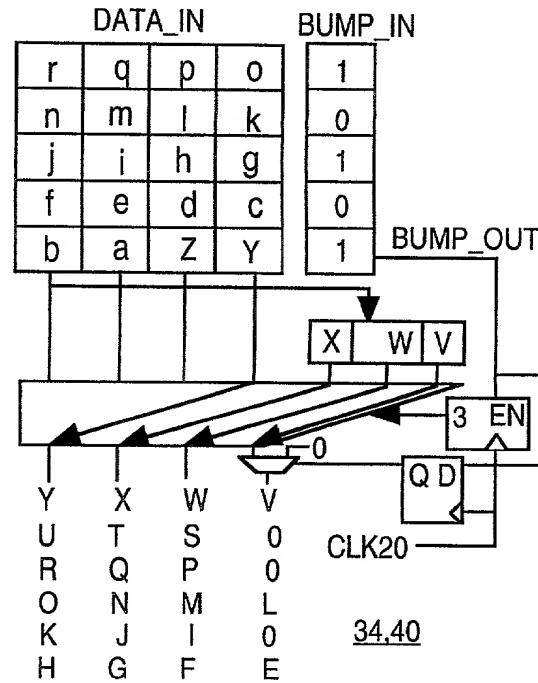
34.40

**FIG. 36B**



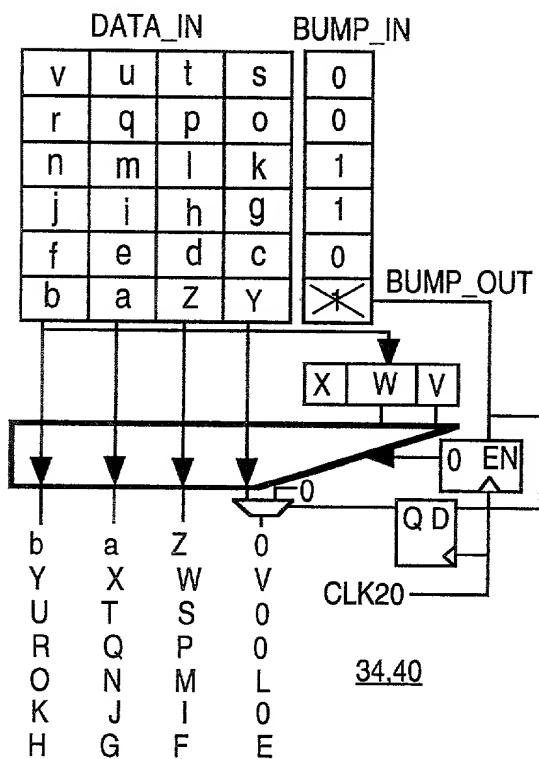
34.40

**FIG. 36C**

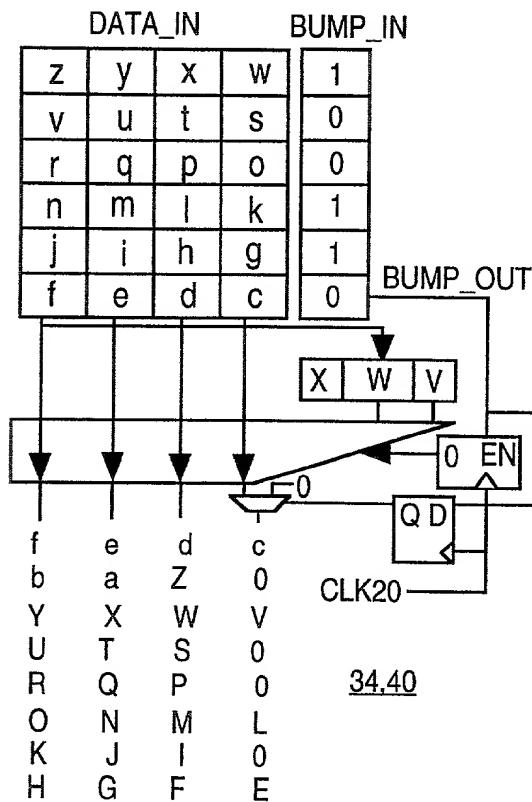


34.40

**FIG. 37A**

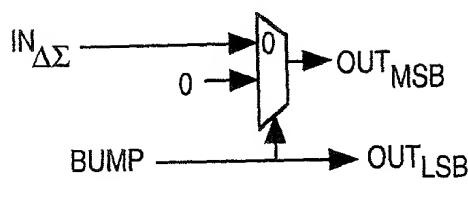


**FIG. 37B**



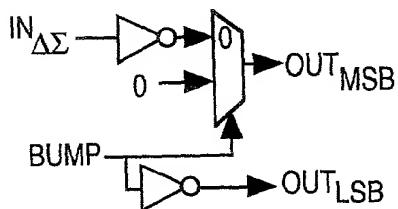
**FIG. 38A**

UNSIGNED:



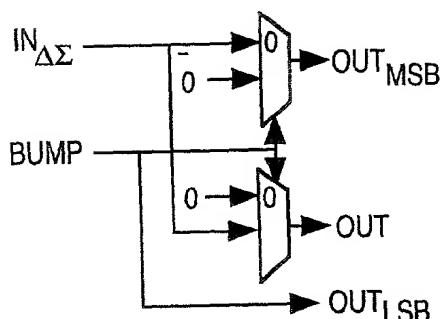
**FIG. 38B**

SIGNED:



**FIG. 38C**

UNSIGNED:



**FIG. 38D**

SIGNED:

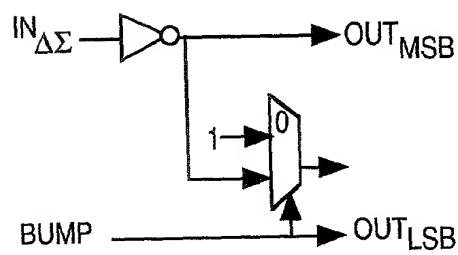


FIG. 39

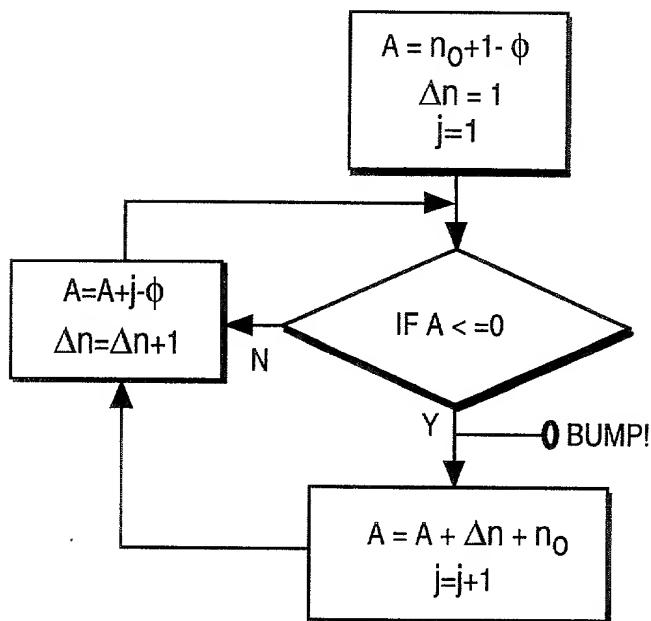


FIG. 40

